

New Jersey.



# GEOGRAPHY OF NEW JERSEY

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## EARLY HISTORY

THE original inhabitants of New Jersey were Indians of the Delaware tribe, which belonged to the Algonquin family. The early white settlers were of different nationalities,—Dutch, Swedes, English, and French. The geographical names of the state are interesting reminders of the various occupants.

The first exploration of the state was made by Henry Hudson, who, in the employ of the Dutch East India Company, sailed for a week in 1609 on the waters of Delaware Bay and Delaware River, which the Dutch called South River, in search of a northwest passage to India. Failing to find it, he sailed north and entered New York Bay and Hudson River, or North River, as it is still called. In 1614 the Dutch founded New Amsterdam, afterwards New York, and, about the same time, established a trading post in what is now Hudson County. Later the Swedes attempted settlements in the southwestern part of the state, but were expelled by the Dutch. The Dutch made settlements at various places, some of which proved to be only temporary. The first permanent settlement in New Jersey was at Bergen, now a part of Jersey City, to which was granted a town form of government, separate from that of New Amsterdam, in 1660.

In 1664 the English took possession of

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New Netherland—the Dutch Colony including New York and New Jersey. King Charles II granted it to his brother, the Duke of York, who in turn granted that part of it lying between the Hudson and Delaware rivers to Lord John Berkeley and Sir George Carteret. The latter had been governor of the Isle of Jersey, and their new grant was named New Jersey in his honor. Disagreements between Carteret and Berkeley led the latter to sell his interest to other proprietors, among whom afterwards was William Penn. In 1676 the colony was divided into East Jersey and West Jersey by a line running from Little Egg Harbor to the Delaware in the northern part of the state. It is because of this division that the state is still often referred to as "the Jerseys." In 1702 the proprietors surrendered their proprietary rights to the crown. From that time to its independence the whole of New Jersey was under royal government.

Five representatives from New Jersey signed the Declaration of Independence.

The position of the state made it "The War Path of the Revolution." Paulus Hook, Springfield, Morristown, Monmouth, Princeton, and Trenton are famous names in Revolutionary history. The troops of the state were in every conflict. In the army of General Wayne, which punished the Indians after the Wyoming massacre, one third were New Jersey soldiers under General Maxwell.



Trenton Battle Monument

# NEW JERSEY

Physical and Political

Scale of Statute Miles

12 MILES TO ONE INCH

- ◎ Capital
- County Seats
- Other Cities and Towns
- Size of type indicates relative population of places

**Newark**

**Trenton**

**Atlantic City**

**Hackensack**

**20,000 to 100,000**

**5,000 to 20,000**

**5,000 population**

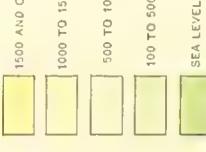
**Freehold**

**Electric Railroads:**

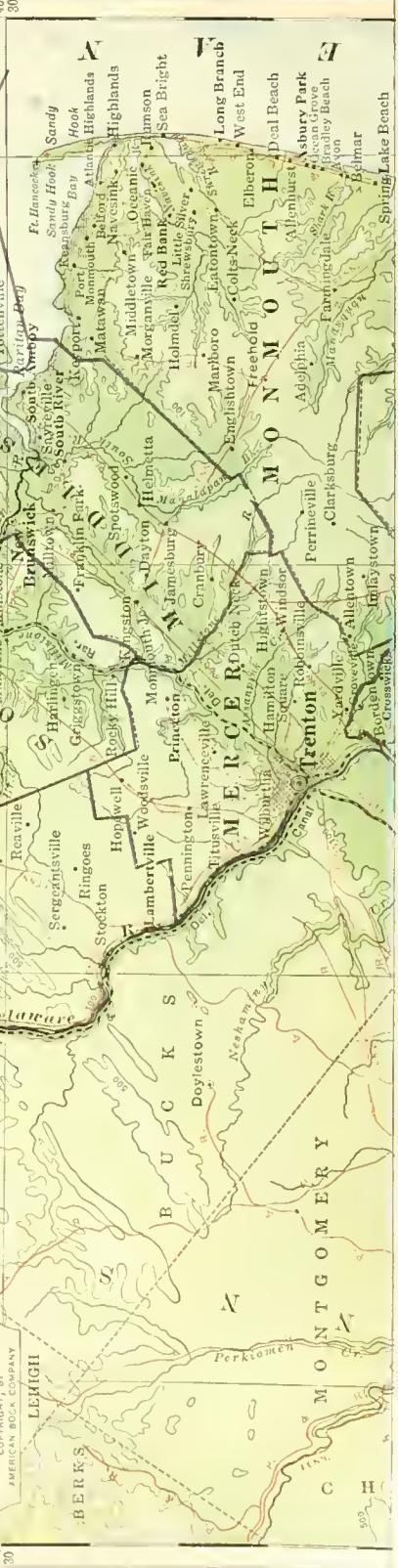
**Canals:**

**Light houses:**

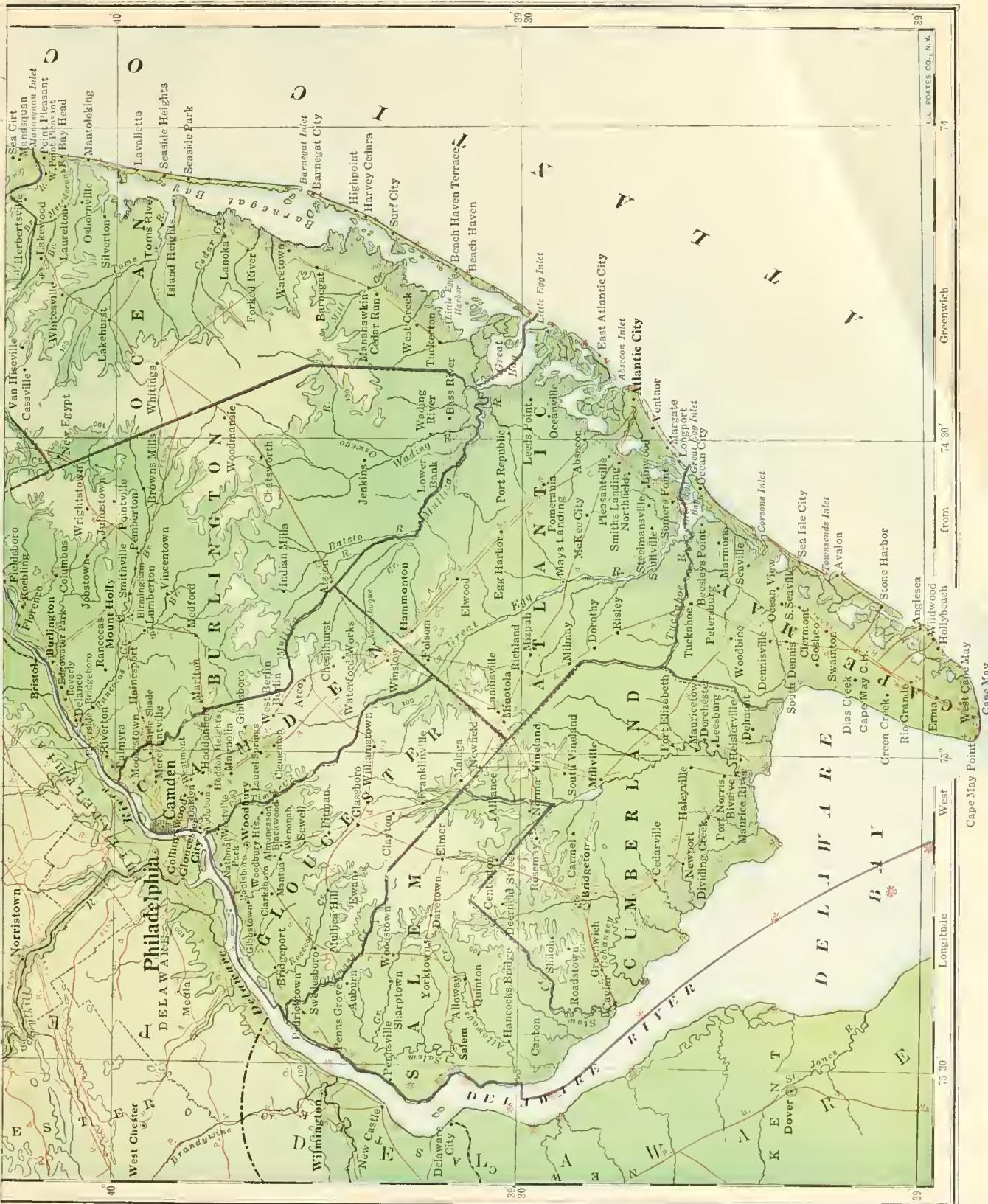
**Life-saving stations:**



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## POSITION AND SIZE

New Jersey lies between  $73^{\circ} 55'$  and  $75^{\circ} 32'$  west longitude and between  $38^{\circ} 56'$  and  $41^{\circ} 21'$  north latitude. Its northernmost point is marked by a rock on the shore of the Delaware River just south of Port Jervis, New York, known as Tri-States Rock. From this point to Cape May the length of the state is 166 miles. Its narrowest part, between Trenton and Raritan Bay, is  $33\frac{1}{2}$  miles wide. Its widest part, measured on a line extending northwest from Great Egg Inlet, is 57 miles wide.

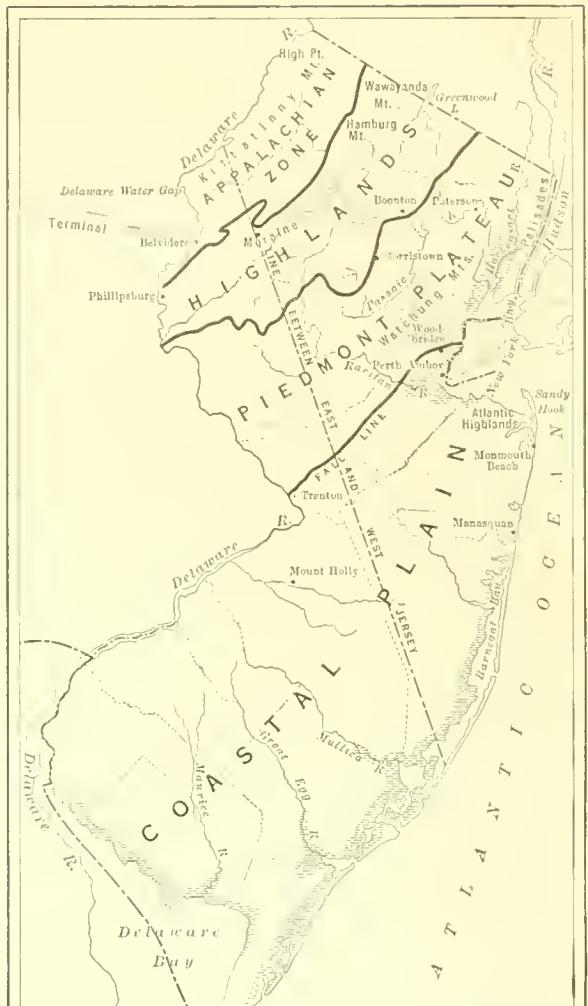
It is the smallest of the Middle Atlantic states and has an area of 8224 square miles, of which 7514 square miles are land surface and 710 square miles are water surface. It is the forty-fifth of the states in size.

## RELIEF

In a general way the surface of New Jersey may be described as mountainous in the northern part, undulating in the middle part, and low and sandy in the southern part. The state is divided into four provinces or zones; namely, the Appalachian zone, the Highlands, the Piedmont Plateau, and the Coastal Plain. These zones extend from southwest to northeast.

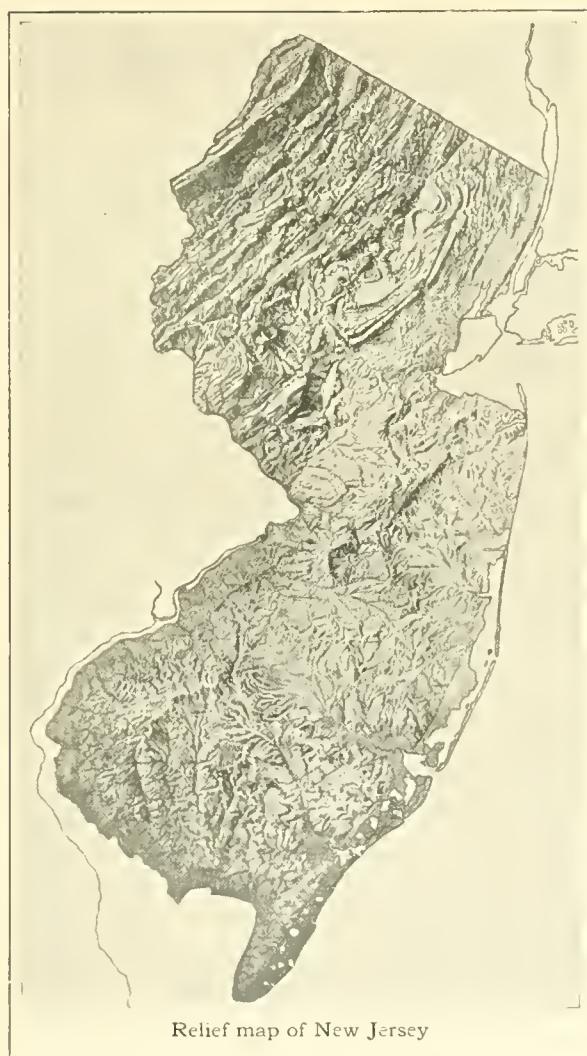


Tri-States Rock in the Delaware River. The rock on which the man stands is at the intersection of New Jersey, Pennsylvania, and New York boundaries



Topographic provinces of New Jersey

The Appalachian zone, which consists of Kittatinny Mountain and Kittatinny Valley, extends across the northwestern part of the state from the Delaware River in the vicinity of the Delaware Water Gap to the New York state line. The width of this belt varies from twelve to fourteen miles. The Kittatinny Mountain extends along the Delaware River for thirty miles in the northwestern corner of the state. It extends into Pennsylvania, where it is known as Blue Mountain. The height of this range varies from 1500 feet to 1800 feet. Its highest point and the highest in the state is High Point, which has an elevation of



1804 feet. The Kittatinny Valley is on the southeast side of Kittatinny Mountain and runs parallel with it.

The Appalachian zone, with its rugged surface, extensive forests, and many lakes, is noted for its beautiful scenery, which attracts many summer visitors. The Delaware Water Gap is particularly noted on this account. This is a break in the Kittatinny Mountain through which the Delaware River flows. Because of the rough surface this section of the state is not adapted to agriculture, although on the bottom lands bordering on the streams and in the Kittatinny Valley there are many

farms devoted to the raising of crops and to grazing.

The second zone, The Highlands, immediately southeast of the Appalachian zone, extends from the Delaware River into New York. Its southeastern boundary passes near Morristown and Boonton. This zone is from ten to twenty miles wide. Its height generally varies from 900 feet to 1400 feet. Hamburg Mountain and Wawayanda Mountain reach an altitude of 1469 feet. The Highlands, as well as the Appalachian zone, belong to the Appalachian region, but in New Jersey the term "Appalachian" is applied only to the region consisting of Kittatinny Mountain and Valley.

The Highlands contain many irregular mountain masses, interspersed with fertile valleys, and much forest land. The zone contains, besides, many lakes, most of which are of glacial origin. The section is consequently one of great natural beauty, and is a popular resort for many who desire outdoor recreation. There is much fertile farm land and land suitable for grazing. Parts of it are specially suitable for the raising of peaches and other fruits. It contains many valuable mineral deposits, including gravel, cement rock, zinc, and iron.

Next to the Highlands and parallel with it is the Piedmont Plateau. This extends from the Delaware River to the northeast corner of the state and is about thirty miles wide. Its southeastern boundary is a line running from Trenton to Woodbridge in Middlesex County, which represents in this state the Fall Line (Sec. 47). It comprises about one fifth of the area of the state. Its elevation varies from sea level to about 900 feet.

The Piedmont Plateau is characterized by the presence of red sandstone and shale. Its surface is very irregular. In its eastern part it is undulating or rolling. In the western, it contains higher lands which may be called plateaus. It contains also irregular

ridges such as the Watchung Mountains, the Palisades, and the mountains in Hunterdon County. The Watchung Mountains and the Palisades are composed of trap rock, which in a molten condition was forced up through overlying rock strata. The eastern sides of these trap ridges are steep slopes. The underlying sandstone has been worn away while the harder trap rock has resisted erosion.

The Falls of the Passaic River at Paterson are located in this section. These falls, which are seventy feet high, were formed by the water passing over the hard trap rock and wearing away the softer rock below.

Because of the nearness of the Piedmont Plateau to the great commercial centers of the country and the excellent facilities for transportation, most of the larger cities of the state are located in this zone.

The fourth zone, the Coastal Plain, includes the remainder of the state south and east of the Fall Line. The land of this zone is highest in the interior along a range of elevations extending from Atlantic Highlands in the northeast to Mount Holly in the southwest,



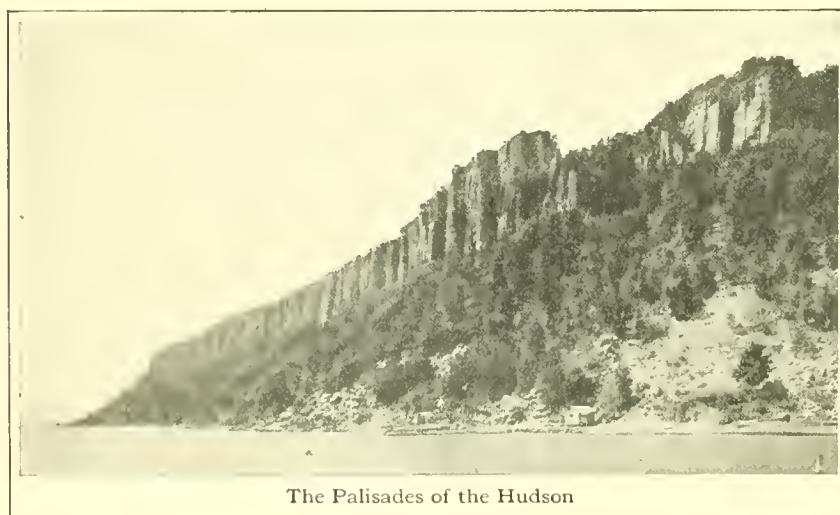
Barnegat lighthouse

and slopes outward from these elevations towards the margins of the zone. The greatest elevation is 390 feet, which is found in Monmouth County. About three fourths of this portion of the state has an elevation of less than 100 feet and about one third has an elevation of less than 50 feet. The Coastal Plain is bordered along Delaware Bay

and the Atlantic Coast by salt marshes, or tidal marshes, often called salt meadows, whose elevation above sea level is rarely as much as four feet. The total area of these marshes, including those of the valley of the Hackensack River, is almost 660 square miles. Along the Atlantic coast the marshes are separated from the ocean by beaches. These are low ridges of sand, constructed in the shallow water by the action of the waves and wind. These beaches are absent along the shore of Delaware Bay and along the coast from Manasquan to Monmouth Beach. The water between the beaches and the mainland is shallow and is becoming more shallow because of the deposit of sediment which is washed down from the land by streams.

Although the coast line of the state along the Atlantic is 120 miles long, there are no good harbors on this line, because of the barrier beaches and the shallowness of the water between the beaches and the mainland.

The northern fourth of New Jersey was covered by ice during the Glacial Period (Sec. 32). It therefore contains many moraines, or deposits of material carried along by the glacier. These de-



The Palisades of the Hudson



Lake Drive, Greenwood Lake

posits consist of clay, sand, gravel, and boulders. In some places they take the form of hills or ridges, in others they are spread out as level sheets. Some valleys are partly filled by them. Many lakes in the northern part of the state occupy basins which were scooped out by the glacier, or were formed from river valleys whose outlets were blocked by glacial deposits. The terminal moraine which marks the southern limit of the glacier extends from Belvidere, through Morristown, to Perth Amboy. As the ice passed over the hard rocks of the mountains it polished their surfaces, and left in them scratches, which indicate the general southward movement of the glacier.

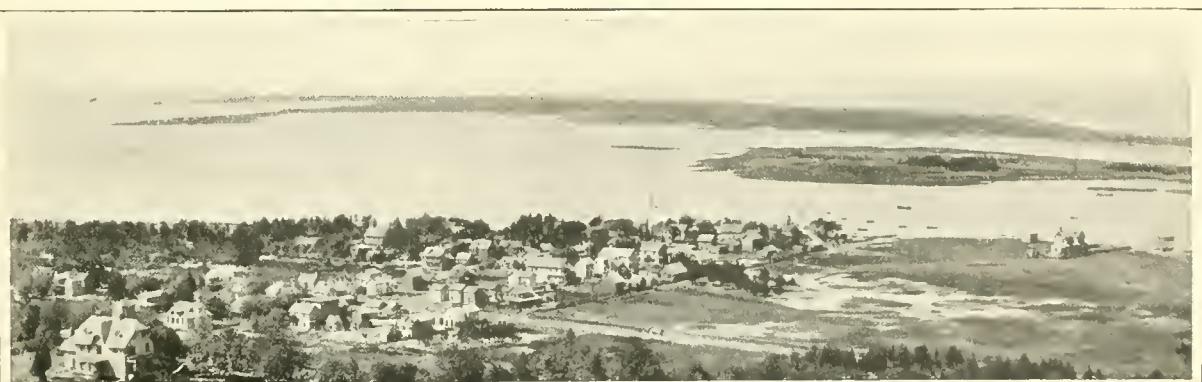
The Coastal Plain was once beneath the ocean and was part of the continental shelf which extends along the Atlantic. The ancient shore is now the Fall Line.

## CLIMATE

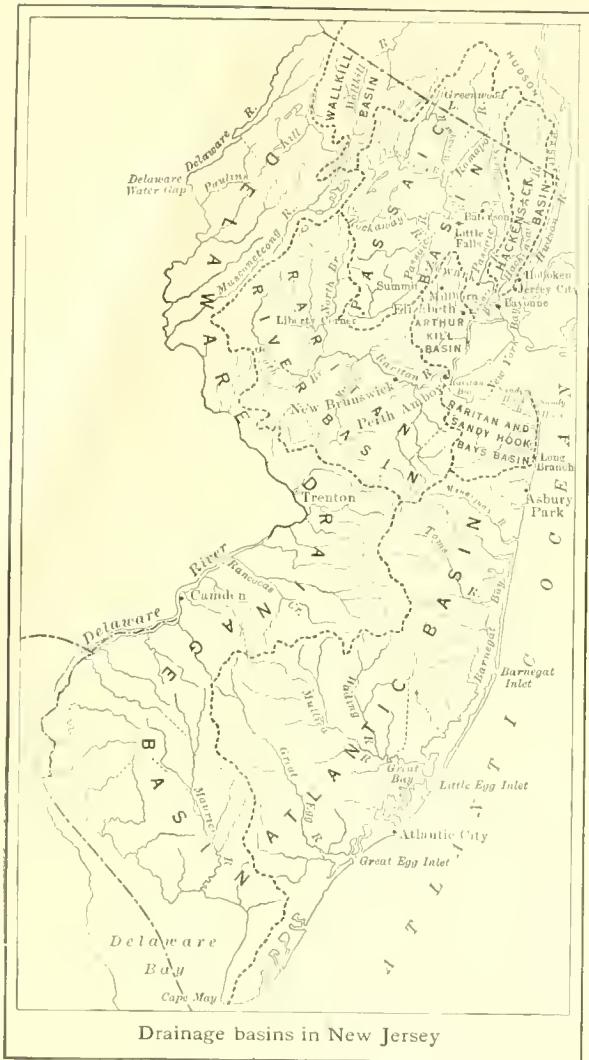
The climate of New Jersey is milder and less subject to extreme fluctuation than that of the interior states in the same latitude, because it extends along the ocean (Sec. 107). The average annual temperature of New Jersey is  $51.5^{\circ}$ . The average annual temperature of the extreme northern part is  $5^{\circ}$  lower than that of the extreme southern end of the state. The lower temperature of the northern part of the state is due to the higher latitude, its distance from the ocean, and its greater altitude.

The prevailing winds are from the west and northwest. New Jersey is in the track of storms, which cross the continent from the west. The south and east winds blowing from the ocean toward the storm centers bring with them much moisture and insure the state an ample rainfall. Local showers or thunderstorms which move from the west or northwest are frequent in the spring and summer months. In the summer time all along the coast the benefit of sea breezes is felt (Sec. 372).

The rainfall is sufficient for all kinds of crops which can be grown in the state. It is greatest in the northeastern part of the state, where the annual precipitation is more than fifty inches; and least in the southern and southwestern part along Delaware Bay, where it is about forty-one inches.



Sandy Hook from the Highland Light



## DRAINAGE

The divide between the streams that flow into the Delaware River and Delaware Bay on the west and those that flow into the Hudson River, Newark Bay, New York Bay, Raritan Bay, Sandy Hook Bay, and Atlantic Ocean on the east is a very irregular line extending from the northwest corner of the state to Cape May. It is so near the Delaware River and Delaware Bay that only a little more than one third of the state is drained into these waters. The tributaries which drain this basin are, therefore, small. The eastern drainage area contains several

rivers of considerable size. The Wallkill River flows northeast through the northwestern part of this state and through the southeast corner of New York into the Hudson River. The Hackensack River rises in New York and flows south into Newark Bay. The Passaic River, which has as tributaries Saddle River, Pompton River, Ramapo River, Wanaque River with Greenwood Lake, Pequannock River, and Rockaway River, follows a very tortuous course and flows into Newark Bay. Just north of the middle of the state is the Raritan River, which rises near the Delaware River and flows into Raritan Bay.

All the rivers which flow into the Atlantic Ocean or into the bays which border the state are affected by the tidal flow, and the largest are navigable for at least some parts of their courses. In the case of the Delaware the tide extends to Trenton. Important cities which are located on tidal waters are Hoboken, Jersey City, Bayonne, Newark, Elizabeth, New Brunswick, Perth Amboy, Long Branch, Asbury Park, Atlantic City, Camden, and Trenton.

Between the Watchung Mountains on the east and south and the Highlands on the northwest is a broad, flat basin, which is drained by the Passaic River. Before the Glacial Period the Passaic River did not flow from this basin through the mountains at Little Falls and Paterson, as it does now. This area was then drained by a stream which crossed the Watchung Mountains near Summit and Millburn and flowed southeast into the sea. During the Glacial Period most of this basin was covered by the ice sheet. As the ice receded, this gap in the Watchung Mountains was filled with glacial drift and there was formed a large lake, which the geologists call Lake Passaic and which was drained for a long time by a stream which flowed southwest through the hills near Liberty Corner into the Raritan River. As the ice sheet receded still farther

north, the gaps through the mountains at Little Falls and Paterson were exposed. As these gaps are lower than the older outlets, the water of Lake Passaic escaped through them over the present course of the Passaic River to Newark Bay, and the lake disappeared. These changes in the drainage of the Passaic basin explain the presence of much swampy land in this section.

The water power generated by the rapid descent of the streams in the part of the state lying north of the Fall Line has long been utilized for manufacturing purposes, and mills are found along all the streams in this part of the state. The location of Paterson as a manufacturing center is due to the water power developed from the Passaic Falls. At Trenton, water power is secured from the rapids of the Delaware River. In the northern part of the state, several streams and lakes are used to provide electric power and light.

Closely connected with drainage systems and dependent largely upon them are the methods of supplying water to the people of towns and cities for domestic purposes. Formerly water for such purposes was obtained from near-by springs, wells, and streams. As population increased, the local sources of water supply became contaminated and dangerous to health. This danger and the larger quantity of water required by the increased population and by manufacturing interests have forced the larger cities to make provision for securing their water supply from sources, more or less remote, which are not subject to pollution. Their water-supply systems include pumping stations, reservoirs for storage, and long pipe lines. The drainage basins from which water is taken for municipal purposes are located in the thinly populated parts of the state. The northern mountainous section, which is not specially profitable for agriculture and other purposes, is particularly useful in furnishing sources of water supply.

The many large cities in the northern part of the state draw their water from the upper parts of the Hackensack, Passaic, and Raritan basins. Formerly Newark and Jersey City drew their water from the Passaic River not far above the former city. This river was gradually so polluted by the sewage and the waste of factories discharged into it, that it had to be abandoned as a source of supply. These cities now bring their water long distances, Newark using the Pequannock basin, and Jersey City the Rockaway. In some cases water is obtained from artesian wells.

The pollution of streams by city sewers and drains from factories destroys fish in fresh-water streams. The damage extends even into tidal waters, and many oyster and clam fisheries in the bays have been abandoned. The state is alive to the necessity of protecting its streams against contamination of all kinds and has enacted legislation designed to maintain their purity by preventing the flow of sewage and other objectionable matter into them. It has provided for the construction of a trunk-line sewer along the valley of the Passaic from Paterson to the sea, into which the sewers of the cities along its course will be discharged. In coöperation with Pennsylvania the state has passed laws to prevent the pollution of the Delaware River.

## PLANTS AND ANIMALS

**Forests.**—When the state was first settled it was covered with a vast primeval forest, consisting of pine, oak, maple, chestnut, hickory, ash, walnut, tulip, poplar, and cedar. For many years lumbering was an important industry, but it ceased a long time ago, after the best timber had been cut down. In the northern part of the state, where agriculture is difficult or impossible, the mountains are still covered with forests which promise to be of great value in the future. In the southern part, the

## GEOGRAPHY OF NEW JERSEY

section called "The Pines" is covered with stunted pines mingled with scrub oak. In all parts of the state are isolated forested areas of varied extent. About forty per cent of the total land surface of the state is covered with forest growth.

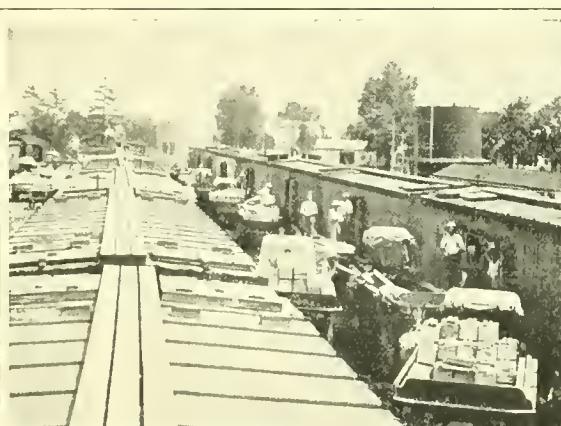
Until a very recent period no organized efforts were made to protect forest trees against forest fires or other destructive agencies, or to provide for reforestation. The state has, however, realized the commercial value of its forests and the importance of promoting their growth on lands that are not available for farming purposes. The state has also recognized the value of forests in preventing floods (Sects. 93, 136, 224). In recent years an additional reason for forest protection is the necessity of preserving the soils of the forested areas in the drainage basins from which the cities obtain their supply of water, so that by the storage of water in the soils and underlying rock strata the supply may at all times be constant and sufficient. The use of trees for shade and wind breaks and their natural beauty also justify their protection and care. For these reasons the state has adopted legislation which provides for the growth of trees and forests. It owns and maintains six forest reserves located in different parts of the state, containing nearly 14,000 acres,

which are being devoted to forest culture. It has authorized the counties to create extensive parks and has provided for the diffusion of important information regarding the care of forests. It maintains lookout stations from which forest fires may be detected, and a force of firewardens to prevent or extinguish fires and to arrest those who cause them. This state and New York, acting together, have created the Palisades Interstate Park, which embraces thousands of acres of forest land in the latter state and the Palisades for a distance of twelve miles along the Hudson in New Jersey.

**Animals.**—The larger wild animals have practically disappeared, although the red deer is still frequently found in the northern and southern parts of the state because of the protection afforded this animal by the laws. Here are, also, still many of the smaller animals, such as the rabbit and squirrel. In many parts of the state wild ducks and quail are numerous.

The fresh-water streams and lakes abound in bass, trout, pickerel, and perch. In the spring the shad fisheries along the Delaware are very profitable. The catch of sturgeon is also very large. All these waters are constantly restocked by means of the hatcheries near Hackettstown which the state maintains. The shad fisheries of the Hudson were formerly extensive, but owing chiefly to destructive methods of fishing and to the pollution of the river this industry has practically disappeared.

The sheltered bays and inlets of the state and the nearness of the fisheries to the markets have made the salt water fisheries very successful. Bluefish and weakfish for food, and menhaden for oil and fertilizer are caught along the coast in large quantities, while in the bays and coves immense quantities of oysters and clams are gathered. Important centers of this industry are Keyport, Barnegat Bay, Tuckerton, Absecon, Maurice River Cove, and Bivalve.



Shipping tomatoes, Swedesboro

## AGRICULTURE

**Soils.**—In the northern part of the state the sides of the higher mountains are steep and are in many places denuded of soil. In the valleys and on the hills north of the terminal moraine the soil consists largely of glacial drift, which is composed of clay, sand, and gravel mixed with boulders. This soil is fertile, but a large part of it is not easy to cultivate, because of the large stones in it and because of the rugged surface. South of the terminal moraine, in the Highlands and in the Piedmont Plateau, the soil is composed of gravel and sand washed down by streams from the glacial deposits farther north and of disintegrated underlying rocks, which in the Highlands consisted largely of gneiss and in the Piedmont Plateau of sandstones and shales. The soil of the Coastal Plain consists of extensive deposits of gravel, sand, clay, and marl deposited in the ocean, which once covered this region. The gravel, sand, and clay were carried into it by the streams which flowed from the north. The marl consists largely of very small shells of animals that lived in the sea. This mixed soil is very fertile, particularly that in which there is an abundance of marl. This is found in the "Marl Belt," which is a strip of land extending from the Atlantic Highlands southwest past Trenton and Mount Holly as far as Salem. Its width varies, being widest at its northeastern end and becoming narrower and less rich in marl toward the southwest. Formerly marl was used extensively as a fertilizer to enrich poorer soils, but it has been generally displaced by the richer commercial fertilizers. The so-called "Pine Barrens" which cover a large part of the Plain,

east of the Marl Belt, are comparatively unproductive, but by proper cultivation and the application of fertilizers, these areas can be made very productive.

**Crops.**—In the production of grain crops the state cannot, on account of its varied surface and its small farms, compete with the western states with their great plains and large farms. Wheat is produced mainly for local consumption. Corn is grown in large quantities in all parts of the state. Rye and buckwheat are also raised in limited quantities. Much of the land, particularly that which is not adapted to the growth of other crops, is devoted to pasture and hay. Many circumstances are extremely favorable



Gathering peaches, New Jersey

special agricultural industries whose products are vegetables, fruits, flowers, poultry, eggs, milk, and butter. These are: the climate, with its mild winters and generous rainfall; the fertility of the soil; the large permanent population of the state; the presence of thousands of visitors from other states at the summer resorts of the state; the nearness of the farm lands of the state to the great cities of New York and Philadelphia; and the excellent facilities for the rapid transportation of agricultural products to the markets.

The constant demand of the large cities makes market gardening very profitable, and this industry is carried on in all parts of the state, but with special intensity in those sections which are near the cities. All kinds of vegetables are raised. Of these the potato crop is the most valuable. In the southern counties, which have a sandy soil, large crops of sweet potatoes are produced. This section is also prominent in the cultivation of tomatoes, beans, and peas, great quantities of which are used in the canning industry.



Poultry buildings, New Jersey Experiment Station, New Brunswick

Cabbages, celery, and onions are valuable products. The demand for fresh, early vegetables has encouraged market gardeners to devote increased attention to growing vegetables under glass.

Fruits of all kinds are raised in all parts of the state. In the northwestern section of the state, in parts of Warren, Morris, and Hunterdon counties, peaches are grown in great quantities on the stony soil of the glacial drift which is not favorable to general farming. In the western section apples and pears are abundant. While strawberries, blackberries, raspberries, and grapes are grown in all parts of the state, they are grown in special abundance in the southern part of the state. In this section establishments for the bottling of unfermented grape juice have grown up. Huckleberries are common in the wooded sections of the northern and southern parts of the state. Cranberry bogs are found in Atlantic, Burlington, and Ocean counties.

**Animal Products.**—Dairy farming is successful in all parts of the state, particularly in the sections in which pasture and hay are

easily obtained, and in which facilities for the prompt transportation of milk to the cities are at hand. Milk is produced not only by the general farmer but also by special dairy farms, which, by devoting special attention to the care and feeding of cattle and to the handling of

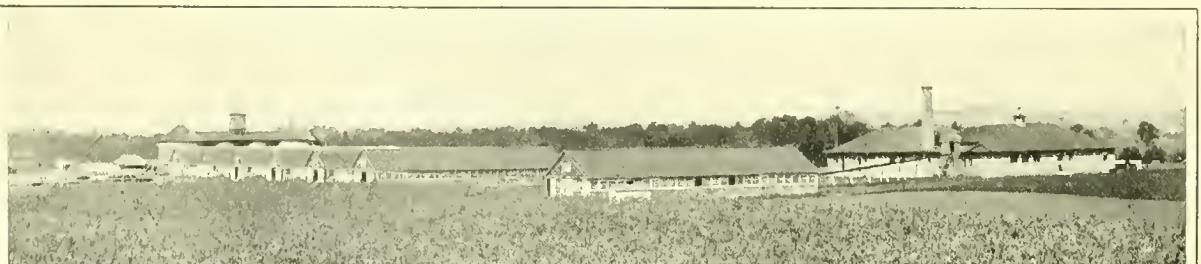
the milk, produce milk of a superior quality.

Poultry raising and the production of eggs are profitable. The poultry industry is especially extensive in Cumberland, Atlantic, and Ocean counties.

With the increase in the population of the cities the farm land of the state is growing in extent and value, but it is clear that more rapid growth is possible and desirable. The State Agricultural School at Rutgers College, with its Experiment Station and practical courses of instruction, is doing much to improve agriculture in New Jersey.

## MINERALS

Iron ore is found in many parts of the state. The mines of Morris County in the Highlands are the most productive. Iron ore was smelted at Shrewsbury in the seventeenth century by Colonel Lewis Morris, and in many places at the time of the Revolution. The iron industry of the state was most extensive and successful during the third quarter of the last century. The greater abundance and richness of western ores has since made it impossible to operate



A dairy farm in Middlesex County. Corn for silage is growing in front of the buildings



Portland cement factories near Phillipsburg

most of the mines and furnaces of Warren and Morris counties profitably. The industry has therefore declined. A few mines are still worked, however, in these two counties. Very rich zinc mines are located in Sussex County, in the neighborhood of Franklin Furnace. In the production of zinc this state ranks fifth among the states of the Union.

Granite of good quality is found in the Appalachian and Highland zones. The quarrying of this material is a rapidly growing industry. Besides granite the sandstone of the Piedmont Plateau is widely used for building purposes. Slate is quarried to some extent in Sussex and Warren counties. Talc, or soapstone, which, ground into powder, is used in making certain kinds of paper and for other purposes, is found in Warren County. The production of cement from limestone and shale, found in the western part of the Highlands near Phillipsburg, has grown to be a very important industry. This industry and the quarrying of slate are parts of the great cement and slate industries of the adjacent section of Pennsylvania, across the Delaware, near Easton, which are among the most important in the country. The trap rock of the Piedmont Plateau is used for building purposes, road making, and railroad beds. Its hardness makes it particularly valuable for macadam roads. In all parts of the state

are found deposits of sand and gravel necessary in building operations.

The beds of marl found in the Coastal Plain have already been mentioned. This region also contains very valuable beds of white sand and fine clay. This sand is used in the making of glass, and has caused the establishment of many glass factories in the southwestern part of the state. Mold-ing sand is also found in great quantity. The most extensive beds of clay are found in Mercer and Middlesex counties. In the former they are used in the making of pottery and in the latter in the making of brick, terra cotta, tile, and other clay products. The enormous industries of Trenton and of Perth Amboy and its vicinity are due to the presence of these clays. For the finer pottery, clays brought from other states or countries are used. Much clay is shipped from this state to other states.

**Manufacturing.**—New Jersey is an important manufacturing state. In this state the manufacturing industries have been developed in a remarkable degree by a combination of conditions and causes. Very early in the history of New Jersey the people of the state were forced by their own needs and the demands of their neighbors to establish manufacturing, and thus this industry has the advantage of many years of growth. The state is rich in certain important natural resources, which have been mentioned. It



Pottery works, Trenton

has profited greatly by its nearness to the coal and iron fields of Pennsylvania and to the two great cities of New York and Philadelphia, with their enormous demands for manufactured products. The number of intelligent and skillful workers in the state is unusually large. The facilities for rapid transportation, both of raw materials from all sources and of finished products to all markets, are unusually abundant. The navigable waters which fringe the state, and the transcontinental railroad systems with their branches, which cross it, facilitate shipments to every part of the world.

Among the most important manufactures of New Jersey are refined copper, silk and silk goods, foundry and machine shop products, petroleum products, packed meats, woolen and felt goods, wire, leather and leather goods, electrical machinery, tobacco manufactures, chemicals, and ships. (See Table II for other manufactures.)

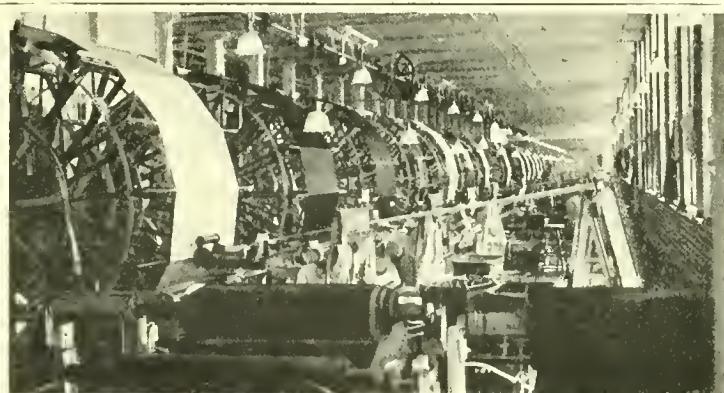
Nearly one sixth of the people of the state are engaged in the manufacturing industries. Only four states, Massachusetts, Rhode Island, Connecticut, and New Hampshire, show a larger proportion of workers engaged in manufacturing. Although New Jersey is forty-fifth in area and ninth in population, this state is sixth in the total value of manufactured goods, first in the manufacture of silk and silk goods, in the smelting and re-

fining of copper, in the manufacture of oil cloth and linoleum and of sewing machines, second in the manufacture of chemicals, rubber goods, pottery, terra cotta, and fine clay products, and of paint and varnish, third in the manufacture of electrical machinery and supplies, and fourth in the manufacture of soap and gold and silver articles.

### TRAVEL AND TRANSPORTATION

In the early days of the state communication between the settlements was by Indian trails, which, as travel increased, expanded into roads. Settlements on the coast were also connected by sailing vessels. The roads gradually increased in number and length as the interior of the state was developed. Little effort was made, however, toward keeping the public roads in good condition. The difficulties of travel and transportation led to the construction of many "turnpikes," or roads built by private companies, which charged tolls for their use. With very few exceptions these have been made public roads.

In the early part of the nineteenth century the foundations of transportation by steam-boat, canals, and railroads were laid. The Morris Canal, from Phillipsburg to Jersey City, was projected and constructed to bring anthracite coal from Pennsylvania to the iron forges of northern New Jersey



Warping silk, silk mills, Paterson



Weaving silk, Paterson



Oil refinery and tanks, Elizabethport

and to New York Bay, and to connect the towns along its route with the city of New York. The Delaware and Raritan Canal, from Bordentown to New Brunswick, the Camden and Amboy Railroad, and the New Jersey Railroad were constructed in order to increase transportation facilities between Philadelphia and New York harbor. Now all parts of the state are connected with each other and with those great centers by many railroad lines. The importance of our railroads has been much increased by the development of the West and by the geographical location of the state in the path of direct communication between the western states and the city of New York. All the trunk lines from the Middle West, with one exception, pass through New Jersey, and have terminals in Jersey City, Hoboken, and Weehawken. The state has 2464 miles of railroad, a greater mileage compared with its area than any other state. Besides, there are 1294 miles of electric railway which traverse all parts of the state and connect all important points.

Because of the superior advantages of railroads, the canals are now obsolete, the Morris Canal being practically abandoned. The traffic between New York and Philadelphia is growing so rapidly that it is probable that the Delaware and Raritan Canal may be widened and deepened and thus may become a barge or ship canal.

Communication with Pennsylvania over the Delaware is by means of many ferries and bridges. There is no bridge between

New Jersey and New York over the Hudson, but the construction of one has been proposed. Until 1908 the only means of communication was by ferries. The Pennsylvania Railroad now enters New York by tunnels extending from the Hackensack meadows to its terminal in the city, and Jersey City and Hoboken are also connected with New York by tunnels. In coöperation with the State of New York, New Jersey has provided for the construction of a tunnel for vehicles between Jersey City and New York, and, in coöperation with Pennsylvania, of a bridge over the Delaware between Camden and Philadelphia.

The state is noted for its excellent roads. The state and municipalities are spending vast sums of money on their construction and maintenance. Funds for state roads, which are in charge of a State Highway Commission, are obtained from the issuance of automobile licenses and from a special road tax.

## RECREATION AND HEALTH

New Jersey is rich in its facilities for recreation and recuperation. The long sea coast is one long line of attractive summer resorts, which are famous all over the world, while some places are pleasure and health resorts all the year round, and attractions of a different kind are found in abundance among the mountains, woods, lakes, and streams of the northern part of the state.

Under authority given by state law the counties and cities have provided many parks and playgrounds and have adopted



The Board Walk, Atlantic City

progressive plans for extending these healthful provisions.

The state has adopted stringent measures regarding sanitation, protection against disease, protection against injury in manufacturing, housing conditions, safety in travel, protection of minors in permissible occupations, and the segregation and treatment of the tuberculous. State laws provide for the payment of damages to persons injured in the industries, and of pensions to dependent widows.

The salt marshes are a menace to health and comfort because they are breeding places for mosquitoes. The counties are authorized by law to spend large sums of money for the purpose of destroying these pests.

## GOVERNMENT AND EDUCATION

**Government.**—The Constitution of New Jersey divides the government into three departments,—legislative, executive, and judicial. The legislative department is vested in the legislature, which is composed of the senate and the general assembly. The senate is composed of one senator from each county, elected by the voters for three years. The general assembly is composed of sixty assemblymen apportioned among the counties according to population and elected by the voters for one year. The executive power is vested in the governor, who is elected for a term of three years. A person cannot be

governor for two successive terms. The judicial power is vested in many courts, of which the principal are the court of errors and appeals, which is the highest court, court of chancery, supreme court, circuit court, and courts of common pleas or county courts. The judges are appointed by the governor with the approval of the senate.

The principal state officers, besides the governor, are secretary of state, state treasurer, state comptroller, and attorney-general.

The state is divided into twenty-one counties, which are again divided into townships, cities, boroughs, and towns. Each of these has its own government, which is administered in accordance with laws passed by the legislature. The principal county officers besides the judge are sheriff, county clerk, surrogate, coroner, county collector, and members of the board of freeholders who are elected by vote of the people.

The counties maintain courthouses, penitentiaries, farms or homes for the aged poor, and may provide parental homes or detention homes for juvenile delinquents or juvenile witnesses.

The state is represented in the United States Congress by two senators and twelve representatives.



State Capitol, Trenton



State Normal, Montclair



State Normal, Trenton



State Normal, Newark

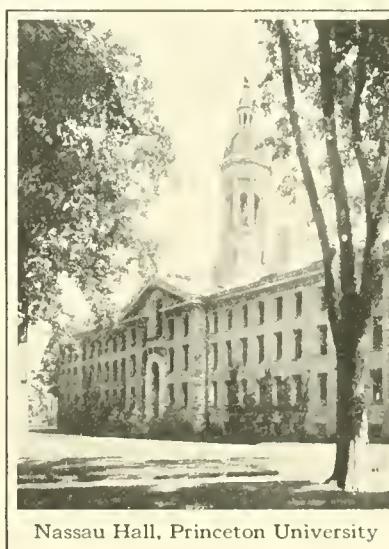
**Education.**—The Constitution requires that "the legislature shall provide for the maintenance and support of a thorough and efficient system of free public schools for the instruction" of the children of the state. It is because of this requirement and the desire of the people to enforce it that the state has such excellent schools.

The principal officers of the state department of public instruction are the members of the state board of education, the commissioner of education, and four assistant commissioners. Each county has a county superintendent of schools, and each city and large town has its own board of education and superintendent of schools or supervising principal.

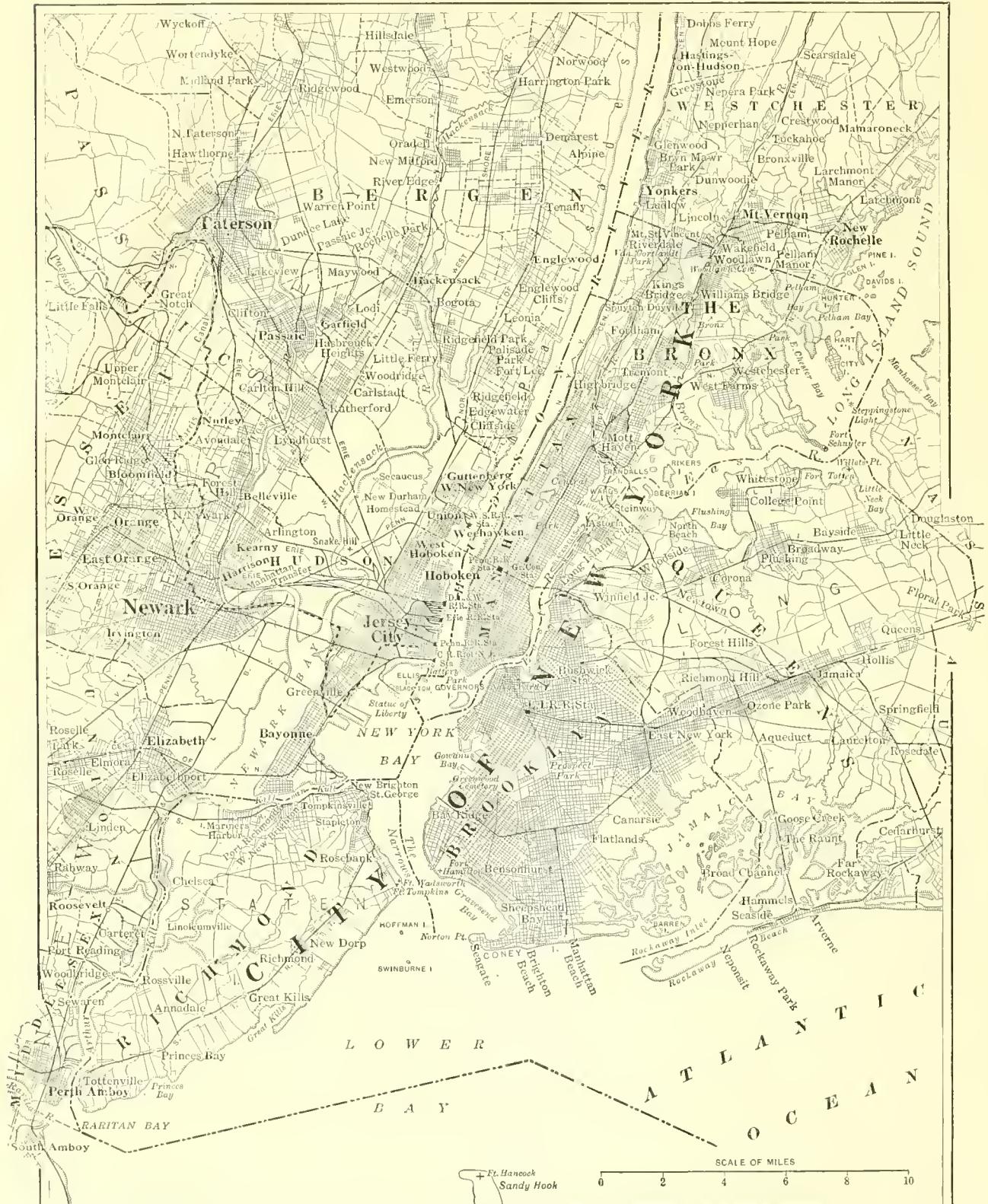
In the school year 1919-1920 the number of pupils who attended the public schools was 591,798. The number of teachers was 18,873. Because of good schools and of compulsory school attendance, there were in 1910, only 113,502 illiterates, or persons of ten years of age and over who could not read or write, or 5.6 per cent of the total population. Of these illiterates, 93,000 were of foreign birth and less than one per cent were of native white parentage.

State normal schools for the training of teachers are located at Trenton, Montclair, Newark, and Glassboro. City normal schools are maintained for the same purpose by Jersey City, Paterson, Trenton, and Camden. The state maintains summer schools for the preparation of teachers and makes appropriations to the State Agricultural College, a department of Rutgers College at New Brunswick. Special schools maintained by the state are: Farnum School, at Beverly, which is associated with the Trenton Normal School; the School for the Deaf at Trenton; and the Manual Training and Industrial School for Colored Youths at Bordentown.

Higher institutions of learning which are located in New Jersey are: Princeton University at Princeton, Rutgers College at New Brunswick, Stevens Institute of Technology at Hoboken, St. Peter's College at Jersey City, College of St. Elizabeth at Convent Station, Mount St. Mary's College at Plainfield, Drew Theological Seminary at Madison, Seton Hall College at South Orange, Upsala College at Kenilworth, Bloomfield Theological Seminary at Bloomfield, and College of Jersey City.



Nassau Hall, Princeton University



The metropolitan district including northeastern New Jersey and southeastern New York

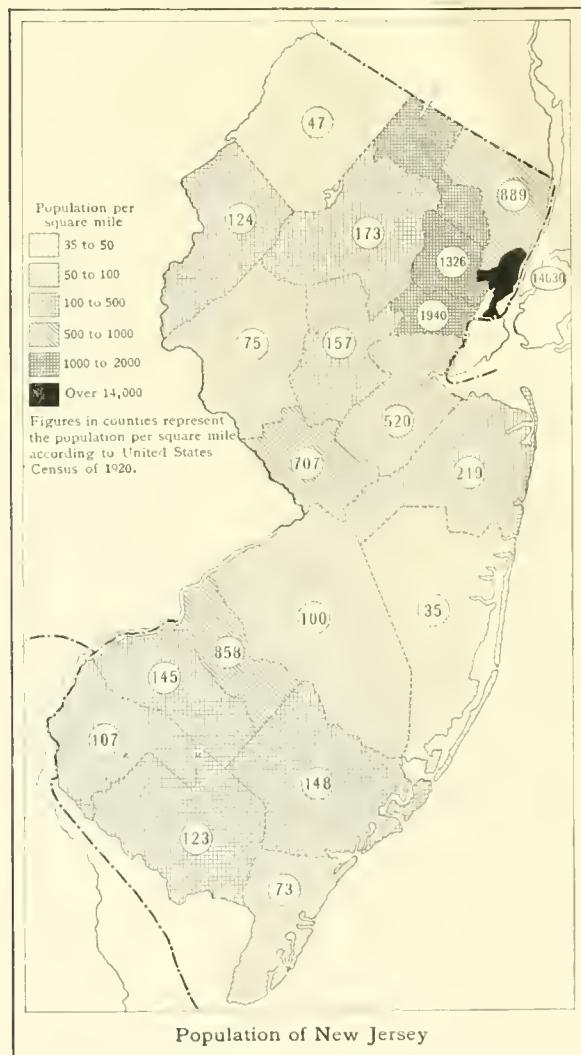
## POPULATION

The population of New Jersey in 1910, according to the United States Census, was 2,537,168; and the density of population, or the number of people per square mile, was 337.7. In 1920, according to the United States Census, the population was 3,155,900, an increase of 24.4 per cent., giving a density of 420. Compared with other states, New Jersey was tenth in population, and third in density of population, Rhode Island being first and Massachusetts second. The area of greatest density of population is the northeastern section, including Bergen, Hudson, Passaic, Essex, Union, and Middlesex counties, which with an area of 1018 square miles had a population of 2,112,933, or more than sixty-five per cent. of the total population of the state. In this section there were more than 2000 persons per square mile. Hudson County, the smallest in the state, had the largest population, which was 629,124 or 14,630 per square mile. In Hoboken, with an area of less than two square miles, the population was more than 68,000 or more than 34,000 to the square mile. Other thickly populated sections are those of which Trenton and Camden are centers. Cape May County had the smallest and Ocean County the most scattered population, which was 22,155 or 35 per square mile.

The urban population, that is, the number residing in towns of more than 2500 people, was 2,486,378 in 1920, or 79 per cent. of the total population. This still leaves a rural population of 669,522, or about 90 per square mile, who are largely engaged in cultivation of the soil or the raising of stock.

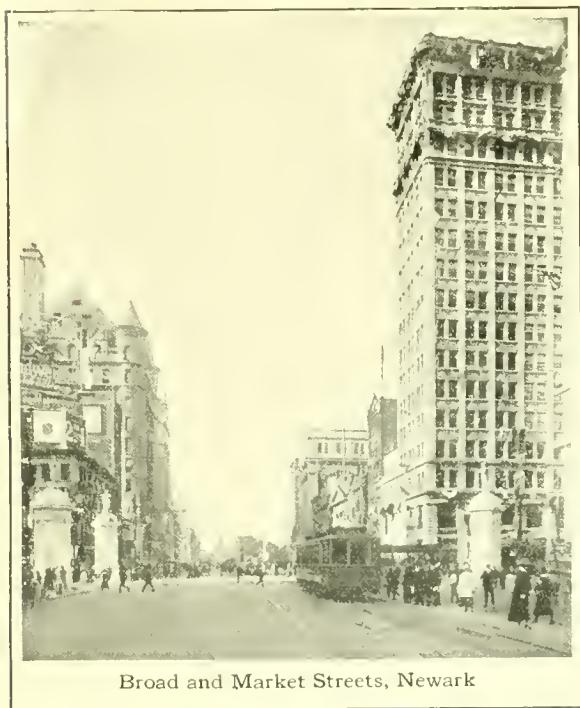
The chief occupations of the people of the state are agriculture, fishing, manufacturing, and commerce. Many thousands of people of New Jersey are engaged in commercial and industrial enterprises and other business pursuits, in the large cities of the neighboring states. Many opportunities for comfortable

residence with all conveniences and advantages and unsurpassed facilities for rapidly traveling back and forth attract many to this state who are employed in the cities of New York and Philadelphia.



According to the United States Census of 1920 the population of the New York City Metropolitan District was 7,750,237. Included in this district are the cities and towns in Hudson County and in parts of Bergen, Passaic, Essex, Union, and Middlesex counties, with a population of 1,795,590. In the Metropolitan District of Philadelphia, with a population of over 2,000,000, are parts of

Burlington, Camden, and Gloucester counties with a population of 239,740. It is clear, therefore, that the occupations of two thirds of our people, at least, are subject to the direct influence of the commercial and industrial activities of these cities. (The United States Census Bureau defines a Metropolitan District as that which embraces the central city and all cities or parts of cities which lie within ten miles of its boundaries.)



### CITIES, TOWNS, BOROUGHS, AND VILLAGES

The cities, towns, boroughs, and villages of New Jersey may be placed in six groups: first, those in the New York City Metropolitan District; second, places lying just outside the Metropolitan District of New York; third, Trenton and the towns of the Upper Delaware Valley; fourth, places in the Philadelphia Metropolitan District; fifth, places in the southern part of the state, near Delaware Bay; sixth, cities and towns on the Atlantic coast.

**Metropolitan District of New York.**—The following are the chief cities of New Jersey in the Metropolitan District of New York: Newark, Jersey City, Hoboken, Bayonne, Paterson, Elizabeth, and Perth Amboy.

**Newark and its Environs.**—Newark, in 1910, had a population of 347,469 and in 1920 of 414,216. It is the largest city in the state and fifteenth in the United States. It was settled in 1666 by settlers from Connecticut. It is located on the Passaic River and Newark Bay and has a frontage on the river and bay of eleven miles. It has water communication with New York Bay by way of Newark Bay and Kill van Kull. The United States government has dredged a channel in the bay three hundred fifty feet wide by twenty feet deep. This great improvement and improvements made by the city at great expense will greatly increase the commerce of the city. The city enjoys excellent railroad facilities. Nine railroads including the great trunk lines have fourteen stations in the city. It is directly connected with the city of New York by passenger trains which pass through the Hudson tunnels. It has numerous banks, fine office buildings, and large department stores. Many trolley lines which radiate from it bring to it the trade of the many neighboring cities.

Newark is the first city in the state in the variety of its manufactures and in the value of its manufactured products. It is eleventh among the cities of the United States in the value of such products. Its great progress in manufactures is due to an early start, to the stimulus given by the opening of the Morris Canal and by railroad and water transportation. It has a large number of important industries which include smelting and refining, the making of shoes, leather goods of all kinds, hats, jewelry, iron, steel, and brass products of all kinds, watch cases, paints and varnishes, clothing, electrical machinery and appliances, automobile supplies, tinware, advertising novelties,

celluloid products, trunks, fertilizers, furs, brewery products, and cigars.

Newark has an excellent supply of water which is drawn from the valley of the Pequannock River in the northern part of the Passaic basin, twenty-six miles from the city.

Surrounding Newark are many important cities and towns which reflect the social, commercial, and industrial influences of that

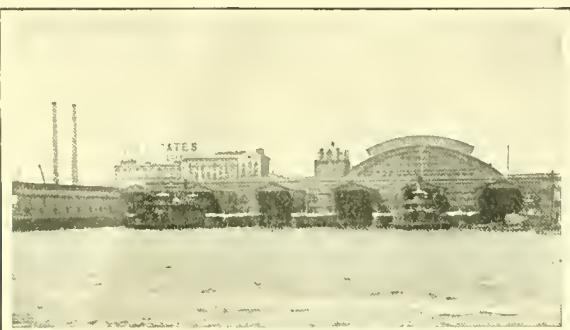
city as well as those of New York. Among these are **Belleville**, **Nutley**, **Montclair**, **Glen Ridge**, **Bloomfield**, **Orange**, **East Orange**, **West Orange**, **South Orange**, **Irvington**, and **Summit**. These are all largely residential towns whose location and abundance of eligible sites for homes are attractive. They are all exceptionally active in providing educational facilities. They are all closely connected with Newark and the city of New York by many railroad and trolley lines. In most of them land is in such demand for residential purposes, that it cannot be used profitably for manufacturing purposes, so that this industry is naturally discouraged. In some of them, however, especially those nearest to Newark, large industrial establishments have grown up. **Belleville**, just north of Newark, has long been noted for its industrial activity and is rapidly growing in importance in this respect. **Nutley**, farther to the north, is well known as a town of beautiful homes. **Montclair**, located on the slope of the Orange Mountains, is noted for its beautiful scenery, its commanding view of many square miles of surrounding country with many populous cities, and its multitude of beautiful homes, and is the home of one of the state normal schools. **Glen Ridge** and **Bloomfield**, similarly situated, are also characterized by their fine dwellings. **Bloomfield** contains many extensive manufacturing establishments. Among the products are electrical lamps and appliances, woolen and worsted goods, colored labels, cream separators, chemicals, rubber goods, and iron and steel products. Besides being an attractive center for residences, **Orange** is a very productive industrial center. Its principal industry is the manufacture of hats. **East Orange** has long been famous because of its superior attractiveness for dwelling purposes and is filled with beauti-



Storage-battery factory, West Orange

ful homes. While the high cost of land does not invite manufactures, several large industries are located here. Electrical motors and generators, surgical appliances, electrical appliances, machinery, lamps, and hats are manufactured in large quantities. **West Orange** is noted for the manufacture of phonographs, phonograph records, moving picture instruments and film's, and storage batteries. Hats are also extensively manufactured. **South Orange** and **Summit** are most attractive residential places, and are developing rapidly along this line rather than in the line of manufactures. **Summit** has an important silk industry. **Irvington**, while long known as a town devoted to residences, is feeling the industrial impulse of Newark, of which it is a suburb, and is rapidly becoming a manufacturing center of great importance. Its industries are varied and include the production of castings, graphite products, tools, cutlery, and gold, silver, and platinum products.

Across the Passaic River from Newark are **East Newark**, **Harrison**, and **Kearney**, the last including **Arlington**. These municipalities are located in Hudson County and are, therefore, officially connected with Jersey City as its county seat. But they are much nearer Newark, with which they are closely connected by industrial and commercial ties. They are prosperous manufacturing centers with industries of national importance. In **East Newark** the most important manufactures are sewing thread and shade rollers. In **Harrison** the industries are varied and the products include iron and steel, incandescent lamps, steam pumps, roller bearings, elevators, steel and tin toys, electric wire, trunks, brass products, tools, metal novelties, castings, and machinery. In **Kearney** the important manufactures are linoleums, yarns, twine, glue, oils, fertilizers, ships, and castings.



Jersey City as seen from the Hudson

**Jersey City and its Environs.**—A long narrow peninsula lies between the Hudson River and New York Bay on the east, and the Hackensack River and Newark Bay on the west. On this peninsula are located many prosperous cities. On the southern half, which is in Hudson County, is found the most densely populated part of the state, with many large cities of great industrial and commercial importance.

**Jersey City**, the largest of this group, had, in 1910, a population of 267,779, and in 1920, according to the United States Census, 297,864. It is the second city of the state in size, and twenty-first in the United States. Parts of it were occupied by the Dutch soon after New York was settled, but the first permanent government was established in 1660 at Bergen, which is now a part of the city. Here were also established the first school and the first church in the state. It is located on New York Bay and the Hudson River and extends westward from these waters to Newark Bay and the Hackensack River. It has a frontage on tidal waters of about twelve miles and has therefore unexcelled facilities for transportation by vessels of any size to all the seaports of the world. Thirteen railroads have terminals in the city. Besides these, there are eleven other passenger and freight stations in the city. Here the railroads bring the products of all parts of the country directly to the ships which sail to all parts of the world.

The city is connected directly with the city of New York by railroads which pass through tunnels under the Hudson. Numerous trolley lines connect the different parts of the city with each other and with other parts of the state. There are nineteen banks and trust companies. In manufacturing, Jersey City ranks second in the state. Its great commercial and industrial growth is due to its nearness to New York, to its connection with that city by ferries and railroad tunnels, by which passengers and freight are carried to the heart of the city of New York in a few minutes, and to the abundance of facilities for all kinds of transportation. The most important products are sugar, printers' type, soaps and perfumes, meats, silks and embroideries, graphite products, lead pencils, tobacco, cigars, iron, steel and brass products, fire hose, rubber goods, soups, watches, chemicals, electrical supplies, heating and lighting apparatus, rope, and paints and varnishes.

The water used by the city is of excellent quality and is brought from the basin of the Rockaway River in the northern part of the state. The city has eight municipal parks and one county park, containing nearly two hundred fifty acres. The city maintains a normal school for the training of its teachers and has an excellent public library.

Besides being an active industrial center it is a residential city. Many thousands whose occupations are in the city of New York live in Jersey City.

North of Jersey City and adjacent to it is **Hoboken**. It is the most densely populated city in the state. It has connections with several railroads, and one of the great trunk lines has its terminal station here. The steamships of several of the most important transatlantic lines, including Scandinavian and Dutch, dock in Hoboken. Hoboken is connected with the city of New York by the Hudson River tunnels and by ferries and with other cities of the state by many trolley lines. Its manufacturing industries include shipbuilding and repairing and the making of lead

pencils, surveying and nautical instruments, marine engines and boilers, silk goods, furniture, and wall paper. Here is located the well-known Stevens Institute of Technology.

North of Hoboken and Jersey City are several cities and towns which are very important industrially and are rapidly growing in population. Their nearness to these cities and to each other makes their industries and interests similar. These are West Hoboken, Union, West New York, North Bergen, Weehawken, Guttenberg, and Secaucus. These are all populous and thriving communities. There are many valuable industries, among which the manufacture of silks and embroideries is the most important. This section leads the state in the manufacture of embroideries and is second only to Paterson in that of silk goods. Other industries are machine shops, marine construction, and the manufacture of pianos, lamps, lard, and rubber goods. In Secaucus vegetable gardening is important.

South of Jersey City lies the city of Bayonne, which is the third city of the state in the value of manufactured products. Its frontage on New York Bay on the east, Newark Bay on the west, and Kill van Kull on the south, gives it exceptional facilities for deep-water transportation. It has, besides, ample railroad facilities. It is the most important center for the refining of petroleum in the world. The oil is brought in pipe lines from the oil fields of Pennsylvania and Ohio to the refineries, from which the many refined products are carried to all parts of the world. There are many other extensive industries, of which the following may be mentioned: the manufacturing of steam boilers, iron, steel, and bronze products, cottonseed oil, nickel and copper products, borax, insulated wire, and silk goods.

The northern part of the peninsula, which is in Bergen County, contains many attractive towns which are largely residential in character. Among them are Englewood and Fort Lee. Edgewater on the Hudson at the foot of the Palisades has important industries. The chief products are sugar and sirups.

**Paterson and Neighboring Cities and Towns.**—Paterson, located at the Falls of the Passaic River, had a popula-

tion in 1920 of 135,866 and is the third city of the state in size. The founding of the city was suggested by Alexander Hamilton, who foresaw the value of the power generated by the falls and made plans to use it for manufacturing purposes. Its great growth as a manufacturing center is largely due to this power. In the value of its manufactures, it is the fifth among the cities of the state. Its most important industry is the manufacture of silk products of all kinds. In this industry it stands first among the cities of the country. It has many other extensive industrial plants, which include machine shops, foundries, rolling mills, locomotive works, dyeing establishments, and thread and cordage mills.

Passaic, located on the Passaic River a few miles southeast of Paterson, is specially noted for its manufacture of woolen and worsted goods, in which it is the first city of the state. It has other extensive industries, including the manufacture of handkerchiefs and other cotton goods, rubber goods, belting and packing material, machinery, metal, leather and silk goods, and print and chemical works. Passaic is, besides, an attractive residential city.

Northeast of Passaic is Hackensack on the Hackensack River, which is a prosperous residential town. Between Paterson and Passaic are Clifton, a growing manufacturing town, Lodi, with its extensive dyeing industry, and Garfield with its large establishments for the manufacture of



Docks at Hoboken. The principal port of embarkation and debarkation of United States troops in the World War

woolen and worsted goods, waxed paper, embroideries, and yarns. Southwest of Paterson is **Little Falls**, whose principal manufactures are carpets and rugs. **Rutherford, Hasbrouck Heights, Ridgewood, and Westwood** are towns in this section which are specially inviting to residents.

**Elizabeth and Neighboring Towns.**—Elizabeth is one of the oldest towns in the state. It was settled in 1664 and was the residence of Sir Philip Carteret, the first Governor of New Jersey. It is most favorably situated for both manufacturing and residential purposes. Its location on Arthur Kill and Newark Bay gives it deep water connection through Kill van Kull with New York Bay, and it has besides ample railroad facilities. It has many industries, the largest of which, and the largest of its kind in the world, is the manufacture of sewing machines. Other industries are the manufacture of iron and steel products of all kinds, and of electrical appliances, tanning, printing, and shipbuilding. It has always been popular as a place of residence with many whose business is in New York.

**Rahway**, a few miles southwest of Elizabeth, is a flourishing city whose chief industries are the manufacture of felt, cereals, steel products, clothing, music boxes, and printing and book binding. **Roselle, Roselle Park, Cranford, and Westfield** are attractive residential towns west of Elizabeth, with excellent educational facilities. **Garwood**, in this vicinity, is an important manufacturing town.

**Perth Amboy and Neighboring Towns.**—Perth Amboy was settled in 1684 and alternated with Burlington as the meeting place of the New Jersey assembly after the union of the provinces in 1702. Its great industrial activity has increased its population by more than 100 per cent in the last fifteen years. Its rapid industrial growth is due to its location at the mouth of the Raritan River and on Raritan Bay and Arthur Kill, as well as to its railroad facilities, and to the extensive deposits of clay which are found here. The development of these has led to the establishment of large manufacturing plants whose

products are terra cotta, earthenware, and tile of all kinds. Other important industries are the refining of gold, silver, copper, and lead, the preparation of vaseline, boat building, the shipping of coal, and the manufacture of cigars, insulated wire, chemicals, and steel products. It is the fourth city in the state in the value of manufactured products.

Near Perth Amboy are **Metuchen, Woodbridge, South Amboy, Sayreville, and South River**, which are populous towns and have extensive industries similar to those of Perth Amboy. In **Woodbridge** the output of fire brick is specially important. In **Sayreville** and **South River** special attention is given to the manufacture of building brick. In all there is considerable shipping of clays to other points. Many varied industries are found in Carteret to the northeast of Woodbridge.

**Places on the Outskirts of the Metropolitan District of New York.**—Lying just beyond the New York City Metropolitan District, yet feeling its influence more and more as the facilities for communication are increased, are a number of important towns.

**Morristown**, in Morris County, is famous because of its Revolutionary associations. It is distinctively a residential town, which possesses great municipal and educational advantages. **Madison** is another residential town, whose peculiar and most important industry is the cultivation of roses. **Boonton** and **Dover** have picturesque locations and are industrially active. Their chief products are boilers, furnaces, hosiery, iron, hats, and silk goods.

In Union County is **Plainfield**, which is well known on account of its residential advantages, its unexcelled schools, and its industrial importance. Its principal manufactures are printing presses, electrical appliances, garments, machine tools, and machine shop products. **North Plainfield** is a residential suburb.

**Somerville** is an attractive and prosperous town with industries which manufacture clothing, laces, and iron pipe. **Bound Brook** is at the junction of three trunk line railroads and is located on the Raritan Canal. It is therefore an active industrial center. At **Finderne**, between Somerville and Bound Brook, are large asbestos works.

**New Brunswick**, which was built up about the ferry established here in 1697, is situated on the

Raritan River and at the eastern end of the Raritan Canal, and enjoys superior facilities for water and railroad transportation. Its most extensive industry is the manufacture of surgical dressings. Other manufactured products are machinery, woolen goods, iron and steel products, automobiles, cigars, and wall paper. Here is situated Rutgers College, which includes the State Agricultural College and Experiment Station. The State Home for Boys is located at Jamesburg. Keyport, with its fisheries and growing manufacturing industries, is situated on lower New York Bay and has rail and water connections with that city. Freehold is always associated with the battle of Monmouth. It has important canning and rug-making industries.

**Trenton and the Towns of the Upper Delaware Valley.**—Trenton, the capital of the state since 1790, was settled about 1679. Here occurred the Battle of Trenton, which is commemorated by an imposing monument. It is situated on the Delaware at the head of navigation. The Delaware and Raritan Canal passes through the city. It thus has the advantage of transportation by water and railway. The water power developed by the Falls of the Delaware encouraged the establishment and growth of the city's industries, but these have grown so extensive that they do not rely upon it. In the neighborhood of Trenton are deposits of clay which were the basis of the pottery industry. It has forty-eight potteries and in this industry it is rivaled by only one city in the United States. The local clay is now used very little. The better grades of pottery require the finer clays which are obtained from England, France, and some states of this country. It manufactures more sanitary earthenware than any other city in the country. Other extensive industries are automobile factories, iron and steel works, machine shops, foundries, rubber works, woolen mills, watch factories, and oilcloth and linoleum factories.

The state and city acting together have created a large public park which extends along the Delaware River and includes the

grounds around the state capitol. The trade of the surrounding country makes the city a thriving business center.

Northeast of Trenton is Princeton, memorable as the scene of the Battle of Princeton and rich in historic associations. Here is located Princeton University, founded in 1746.

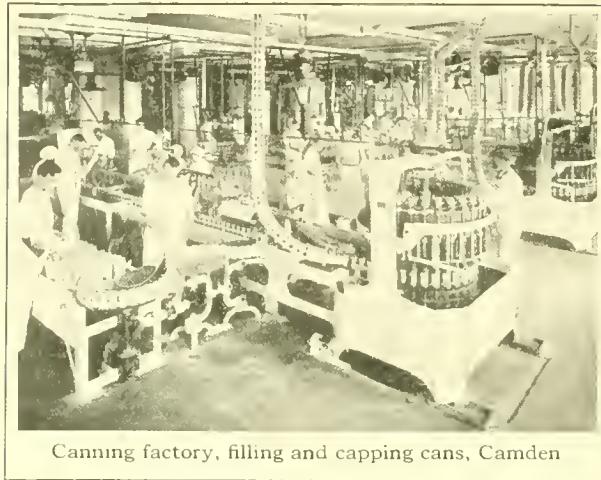
Lambertville, on the Delaware northeast of Trenton, is a prosperous town with considerable water power, whose principal industries are rock quarries, rubber works, and canning factories. Pennington and Hopewell in the interior are industrious canning centers. At Phillipsburg, on the Delaware, opposite the mouth of the Lehigh, five railroads meet. It is the western terminus of the Morris Canal. These transportation facilities make it a strongly industrial town. Its principal products are air compressors and rock drills, horse-shoes, canisters, iron pipe, boilers, and silks. The principal cement works of the state are located near Phillipsburg. Belvidere, on the Delaware above Phillipsburg; Washington, Hackettstown, and Blairstown, in the interior, are popular residential towns. In Washington pianos and organs, and in Hackettstown saws and leather, are the chief industrial products. In Hackettstown and Blairstown well-known educational institutions are located. Newton is located in the picturesque mountain region of Sussex County. Here dairy farming is important. Its chief manufactures are shoes, silks, and dyeing.

Flemington and High Bridge, in Hunterdon County, though not located in the Delaware Valley, are near it. They are important centers of trade in agricultural sections with growing industries. High Bridge is in the heart of the peach-growing section and has large steel works. So also Franklin Furnace, in Sussex County, is in the Wallkill Valley and is the center of the zinc-mining industry.

**Camden and Neighboring Cities and Towns.**—In this group are included the towns which are located in the southwestern part of the state and which are usually considered as belonging to the Metropolitan District of Philadelphia or are near it. All are vitally affected by its stimulating commercial and industrial impulse.

The largest city of this group is Camden, on the Delaware opposite Philadelphia, founded about 1680 and known in colo-

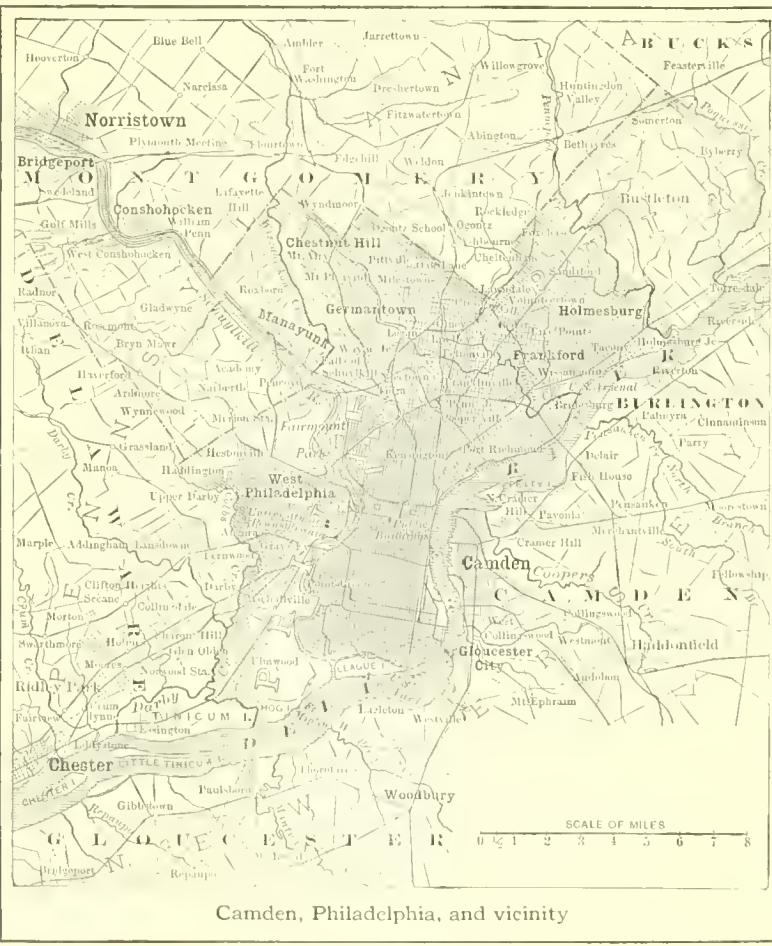
nial days as Cooper's Ferry. It shares with Philadelphia the advantages of the deep-water route to the ocean through the Delaware River and Bay. It owes its first industrial impulse to the opening of the Camden and Amboy Railroad. From it many railroads radiate to all parts of the state and one crosses the Delaware to Pennsylvania. Direct communication with Philadelphia is maintained by ferries. More rapid com-



Canning factory, filling and capping cans, Camden

ships and merchant vessels can be built. One of the shipbuilding plants is the largest in the country. Other extensive industries are foundries, machine shops, woolen mills, chemical works, factories for the manufacture of cigars, paints, candies, leather, licorice, linoleum, writing pens, and the preparation of soups.

Northeast of Camden, on the Delaware, are **Riverside** and **Beverly**, which are important centers of manufacture and of truck farming. Farther up is **Burlington**, which was settled in 1677 and was the capital of West Jersey. It has ample facilities for transportation by rail and water. Its interests are both agricultural and manufacturing. Its principal products are shoes, iron pipe, and hardware. **Bordentown**, the southwestern terminus of the Delaware and Raritan Canal, also has excellent transportation facilities. Its most important industries are the canning of vegetables and the manufacture of yarns and clay products. In the interior, the old town, **Mount Holly**, is rich in agricultural products and has industries which produce hosiery, shoes, and tapestry goods. East



Camden, Philadelphia, and vicinity

and southeast of Camden are **Merchantville**, **Moorestown**, **Collingswood**, and **Haddonfield**, which are distinctively residential towns, but in which vegetable raising is an important industry.

**Gloucester**, on the Delaware south of Camden, is a growing industrial center. Its products are yarns, paper, and gas mantles. It has communication with Philadelphia by ferries, which transport the produce of the rich truck and fruit farms of the surrounding country to that city. **Woodbury** is a prosperous residential town with industries which make pianos and glass bottles. Next to the southward are **Swedesboro**, **Glassboro**, and **Clayton**, whose principal industrial activities are connected with the making of glass and the raising and canning of vegetables and fruits.

**Towns near Delaware Bay.**—Farther south on the outskirts of the Philadelphia Metropolitan District are the very active business and industrial center, **Salem**, settled by the Quakers in 1675, **Bridgeton**, **Vineland**, and **Millville**.

In these towns the glass factories are extensive and make all kinds of glass articles. In **Bridgeton** and **Millville** many persons are employed in the mining and shipping of glass sand. Molding sand is also a product. In and surrounding these towns are large areas of farm land devoted to the raising of all kinds of vegetables, berries, and tree fruits for the markets. Great quantities of these are preserved in the many large canning factories which are located in them. **Vineland** produces much bottled grape juice. These towns have also diversified industries of other kinds.

In **Cape May Court House** the important industrial activities are the making of glass bottles and the raising of berries and other fruits.

**Cities and Towns on the Atlantic Coast.**—Along the Atlantic coast are many cities and towns which are popular health and pleasure resorts. The many railroads which connect them with the large cities have made them convenient of access so that thousands of people visit them in the summer time.

The largest of these is **Atlantic City**, which is the largest seaside resort in the country and is devoted entirely to the entertainment of visitors. It is said to contain more than one thousand hotels. Its permanent population numbers somewhat more than 50,000, but in the summer time its population is estimated at about 300,000. It has

a climate favorable to those who are convalescing from illness or seek to recuperate their health. On this account it is a popular resort during the entire year. It has a superior school system and all the other facilities and institutions which mark the progressive city. **Long Branch**, farther north, is the oldest resort on the coast. Another resort of many years standing is **Cape May City**. Other well-known resorts are **Ocean City**, **Point Pleasant**, **Sea Girt**, **Manasquan**, **Spring Lake**, **Belmar**, **Ocean Grove**, **Asbury Park**, **Sea Bright**, and **Atlantic Highlands**. **Red Bank**, with its many attractive country homes, is situated on the Navesink and is classed as a seaside resort.

**Lakewood**, among the pines of **Ocean County**, is a popular winter health resort.

## TABLES

TABLE I. — REFERENCES ON THE GEOGRAPHY OF NEW JERSEY

1. Reports and other publications of the Department of Conservation and Development of New Jersey, including
  - a. Reports of the State Geological Survey and of the State Geologist.
  - b. The Geologic Atlas of New Jersey.
  - c. Topographic Atlas, including state, geographic, and railroad maps.
  - d. Reports of the Forest Park Reservation Commission.
  - e. Reports of the State Water Supply Commission.
2. Reports of the Palisades Interstate Park Commission.
3. Reports of the State Board of Agriculture.
4. The Industrial Directory of New Jersey, published by the Bureau of Statistics.
5. Publications of the United States Geological Survey.
6. Reports and bulletins of the United States Census Bureau.
7. Publications of the United States Department of Agriculture, including those of the Weather Bureau.
8. Legislative Manual, State of New Jersey.
9. New Jersey as a Colony and as a State — Lee.
10. A Brief History of New Jersey — Ellis and Snyder.
11. Local histories and transactions of local historical societies.

## GEOGRAPHY OF NEW JERSEY

TABLE II.—LEADING MANUFACTURING INDUSTRIES OF NEW JERSEY, ACCORDING TO THE UNITED STATES CENSUS OF 1914

INDUSTRY	VALUE OF PRODUCTS
All industries	\$1,406,633,414
Smelting and refining copper	159,198,876
Petroleum products	90,876,993
Silk and silk goods	75,706,449
Foundry and machine shop products	74,126,941
Electrical machinery and supplies	40,740,810
Slaughtering and meat packing	40,108,471
Tobacco	39,695,997
Woolen, worsted, and felt goods	36,268,561
Rubber goods, rubber hose, and belting	35,798,739
Chemicals	31,686,865
Leather	31,651,831
Dyeing and finishing textiles	27,986,512
Bread and bakery products	25,458,216
Cotton goods	16,782,164
Pottery, brick, tile, terracotta	16,693,447
Soap	16,692,406
Food preparations, confec'y, chocolate	16,529,429
Paint and varnish	16,086,717
Printing and publishing	14,083,011
Gas, illuminating and heating	14,020,050
Canning and preserving	13,764,955
Copper, tin, and sheet iron products	12,499,728
Lumber and timber products	12,482,553
Ship and boat building	11,860,965
Clothing, men's, including shirts	11,547,363
Oilcloth and linoleum	11,384,311
Jewelry	11,347,455
Boots and shoes	11,204,323
Fertilizer	11,197,690
Paper and wood pulp	10,931,431
Hats and hat materials	10,569,597
Millinery and lace	10,485,723
Oils, grease and tallow	10,475,379
Iron and steel	10,420,452
Railway cars and shop products	10,344,659
Gold and silver refining	10,078,176
Automobiles, incl. bodies and parts	8,237,416

TABLE III.—AREA AND POPULATION OF THE COUNTIES OF NEW JERSEY, ACCORDING TO THE UNITED STATES CENSUS OF 1920

COUNTY	AREA SQUARE MILES	POPULA- TION 1920	COUNTY	AREA SQUARE MILES	POPULA- TION 1920
Atlantic	569	83,883	Middlesex	312	102,334
Bergen	237	210,688	Monmouth	470	104,906
Burlington	815	81,770	Morris	475	82,294
Camden	222	190,508	Ocean	637	22,155
Cape May	265	19,400	Passaic	106	250,148
Cumberland	500	61,348	Salem	343	36,572
Essex	127	651,807	Somerset	305	48,015
Gloucester	332	48,224	Sussex	520	24,005
Hudson	43	620,124	Union	103	109,832
Hunterdon	437	32,885	Warren	362	45,057
Mercer	226	159,881	The State	7,514	3,155,000

TABLE IV.—CITIES, TOWNS, BOROUGHS, AND VILLAGES OF NEW JERSEY HAVING 2000 OR MORE PEOPLE IN 1920

CITIES, TOWNS, ETC.	POPULATION	CITIES, TOWNS, ETC.	POPULATION
Newark	414,216	Haddonfield	5,646
Jersey City	268,070	Madison	5,523
Paterson	155,866	East Rutherford	5,403
Trenton	119,280	Roselle Park	5,435
Camden	116,309	Secaucus	5,423
Elizabeth	95,682	Boonton	5,372
Bayonne	76,754	Wrightstown	5,288
Hoboken	68,166	Hawthorne	5,135
Passaic	63,824	Fairview	4,882
East Orange	50,710	Highland Park	4,806
Atlantic City	50,682	Freehold	4,708
Perth Amboy	41,707	Merchantville	4,754
West Hoboken	40,068	Audubon	4,740
Orange	33,268	Lambertville	4,660
New Brunswick	32,779	Glen Ridge	4,620
West New York	29,026	Carlstadt	4,472
Montclair	28,810	Ravitan	4,457
Plainfield	27,700	Keyport	4,415
Kearny	26,724	Bordentown	4,371
Clifton	26,470	Paulsboro	4,352
Irvington	25,480	Prospect Park	4,202
Bloomfield	22,019	Newton	4,125
Union	20,651	Franklin	4,075
Garfield	19,381	Caldwell	3,993
Hackensack	17,667	Bogota	3,906
Phillipsburg	16,923	Bergenfield	3,667
Harrison	15,721	Edgewater	3,530
Bellefonte	15,660	Haledon	3,435
West Orange	15,573	Dunellen	3,394
Millville	14,091	Pitman	3,385
Bridgeton	14,323	Washington	3,341
Long Branch	13,521	Metuchen	3,334
Morristown	12,548	East Newark	3,057
Asbury Park	12,400	Verona	3,039
Gloucester	12,102	Cape May	2,999
Englewood	11,617	Leonia	2,979
Roosevelt	11,047	Haddon Heights	2,950
Rahway	11,042	Hackettstown	2,930
Summit	10,174	Wanaque	2,910
Dover	9,817	Hasbrouck Heights	2,805
Rutherford	9,497	Butter	2,886
Nutley	9,421	Wharton	2,877
Red Bank	9,251	Wildwood	2,700
Burlington	9,049	Little Ferry	2,715
Westfield	9,026	Hightstown	2,674
Collingswood	8,714	Jamesburg	2,671
Ridgefield Park	8,570	Rockaway	2,655
Lodi	8,175	Palisades Park	2,633
South Amboy	7,807	Egg Harbor	2,622
Ridgewood	7,580	Westwood	2,597
Salem	7,435	Flemington	2,500
South Orange	7,274	Milltown	2,573
North Plainfield	6,916	Beverly	2,502
Vineland	6,799	Dumont	2,537
Guttenberg	6,720	Ocean City	2,512
Somerville	6,718	East Paterson	2,441
South River	6,596	Chatham	2,421
Hammonton	6,417	Westville	2,380
Penns Grove	6,060	Riverton	2,341
Princeton	5,917	Bradley Beach	2,307
Bound Brook	5,906	Midland Park	2,243
Pleasantville	5,887	Ventnor	2,203
Woodbury	5,801	Bloomingdale	2,193
Fort Lee	5,761	Glen Rock	2,181
Roselle	5,737	Alpha	2,140
Wallington	5,715	Ramsey	2,090
Cliffside Park	5,700	Pompton Lakes	2,008
Tenafly	5,650		



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